

6. (once amended) A method according to claim 2, wherein the motor is clamped [secured] in a substantially vertical position, with its exhaust end facing generally upwards, during the burning step.

Kindly add claims 21-23 as follows:

21. (new) The method according to claim 1 further characterized by deflecting the contaminated water to within a shroud or hood .

22. (new) The method according to claim 2 further characterized by deflecting the contaminated water to within a shroud or hood.

23. (new) The method according to claim 3 further characterized by deflecting the contaminated water to within a shroud or hood.

REMARKS

The Examiner has required restriction under 35 U.S.C. 121 between claims 1-9, drawn to a method, and claims 10-20, drawn to an apparatus. In a telephone interview, the undersigned attorney elected claims 1-9, the method claims of Group I, and this election is hereby affirmed.

The Examiner has rejected claims 1, 2, 5 and 6 under 35 U.S.C. 102(b) as being anticipated by Russian Patent RU 2021560 C1. This rejection is not though to be well taken, especially in view of the amendment to claim 1 upon which claims 2, 5 and 6 depend, either directly or indirectly. The Examiner states:

“RU 2021560 C1 discloses the disposal of solid rocket fuel by combustion in the rocket body comprising placing the charge with the opening for combustion products upwards and filling with coolant to a level which separates the main part of the combustion surface. During the combustion, coolant is supplied to the combustion chamber to regulate the combustion process. Water of neutralizing solutions of soda and alkali are used as coolant. RU2021560 C1 also discloses that this method increases safety.”

While this is generally an accurate description of the RU 2021560 C1 patent, nevertheless there are significant differences, both in the reasons for using water and the specific technique of actually using the water. (The discussion of this Russian patent, together with the later cited Russian patent, will be based on the English language abstract and the drawings inasmuch as no translation has been provided of the full text of the patent.) As described in the abstract, coolant is supplied to a combustion chamber to regulate the combustion process with water or neutralizing solutions of soda and alkali being used as the coolant. The abstract further states: “The method is carried out by placing the charge (1) with opening for combustion products upwards and filling with coolant to a level which separates the main part of the combustion surface.” Thus, it is clear that the rocket motor is provided in a combustion chamber which is then filled with water or other coolant, and the purpose is to regulate the combustion process. The pressure in the combustion chamber is controlled to a low level. The process also provides a technique which reduces heat transfer to reduce the evaporation intensity of the coolant which is disposed within the chamber. Thus, the engine and coolant are placed in the combustion chamber and the coolant evaporates to control the combustion of the fuel.

This is in contradistinction to the applicant's method of disposing of a rocket motor, wherein the propellant is burned and concomittantly disposed in an enclosure of liquid which is annularly sprayed completely surrounding the location in which the burning occurs.

There is no indication in the Russian Patent RU 2021560 C1 of completely enclosing the combustion area, nor is any water sprayed. Rather, liquid water is disposed in the combustion chamber, as disclosed in the abstract of the Russian patent, and allowed to evaporate. Thus, there is no annular spraying to completely enclose the combustion area as required in claim 1. Therefore, claim 1 is clearly distinguishable over the Russian Patent RU 2021560 C1.

“Anticipation requires identity of the claimed process and a process of the prior art; the claimed process, including each step thereof, must have been described or embodied, either expressly or inherently, in a single reference” Glaverbel Societe Anonyme v. Northlake Marketing & Supply, Inc. 45 F. 3d 1550, 1554, 33 USPQ2d 1496, 1498 (Fed. Cir. 1995). Clearly, there is no step of annularly spraying a liquid to completely enclose the location in which burning occurs and, thus, claim 1 is clearly allowable.

Claims 2 and 5 are dependent upon claim 1 and, for the same reasons, are believed to be allowable.

Claim 6 is dependent upon claim 2 and, for the same reasons, is believed to be allowable. Moreover, claim 6 requires the motor to be clamped in a substantially vertical position, with its exhaust end facing generally upwards during the burning step. There is nothing to indicate that the motor or solid rocket fuel is clamped in the Russian Patent RU 2021560 C1 and, thus, for this additional reason, claim 6 is believed to be allowable.

The Examiner has rejected claims 1-9 as being unpatentable over Russian Patent RU 2021560 C1 under 35 U.S.C. 103(a). The deficiencies of this patent with respect to claim 1 have already been pointed out and claims 2-7 are dependent director or indirectly thereon.

Thus, these claims are believed to be allowable. Further, the Examiner admits that Russian patent RU 2021560 C1 does not disclose removing the venturi mechanism in the rocket prior to the burning step, and does not disclose filtering the liquid in the enclosure and recycling the filtered liquid. The Examiner indicates that these would have been obvious to a person of ordinary skill in the art. However, the Examiner cites no references which would make these steps obvious and, thus, it is believed that claims 3, 4, 7, 8 and 9 are allowable for this additional reason.

It is not enough that one may modify a reference, but rather it is required that a second reference suggest such modification of the first reference.

The CAFC stated In re Piasecki, 745 F.2d 1468, 223 USPQ 785, 788 (Fed. Cir. 1984) the following:

“The Supreme Court in Graham v. John Deere Co., 383 U.S. 1 (1966), focused on the procedural and evidentiary processes in reaching a conclusion under Section 103. As adapted to ex parte procedure, Graham is interpreted as continuing to place the “burden of proof on the Patent Office which requires it to produce the factual basis for its rejection of an application under sections 102 and 103”. Citing In re Warner, 379 F.2d 1011, 1020, 154 USPQ 173, 177 (CCPA 1967).”

The law is quite clear that in order for a claimed invention to be rejected on obviousness, the prior art must suggest the modifications sought to be patented; In re Gordon, 221 U.S.P.Q. 1125, 1127 (CAFC 1984); ACS Hospital System, Inc. v. Montefiore Hospital, 221 U.S.P.Q. 929, 933 (CAFC 1984). The foregoing principle of law has been followed in Aqua-Aerobic Systems, Inc. v. Richards of Rockford, Inc., 1 U.S.P.Q. 2d, 1945 (D.C. Illinois 1986). In the Aqua-Aerobic's case, the Court stated that the fact that a prior reference can be modified to show the claimed invention does not make the modification obvious unless a prior reference suggests the desirability of the modification.

In In Re Oetiker, 24 U.S.P.Q. 2d 1443, 1445 (CAFC 1992) held:

“There must be some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the combination. That knowledge can not come from the applicant's invention itself.”

Most significantly, the CAFC in the recent case of In Re Dembiczak, 50 U.S.P.Q.2nd 1614 (CAFC 1999) held at 1617:

“...(examiner can satisfy burden of obviousness in light of combination ‘only by showing some objective teaching [leading to the combination]’);”

Thus, it is clear that where an individual reference does not teach the entire invention, then the modification which the invention represents must be suggested and motivated by some other reference through some objective teaching and cannot come from the application itself, which is not the case here since there is but one reference cited. Hence, there clearly can be no suggestion of modifications in any way, let alone as suggested by the Examiner.

The Examiner has also rejected claims 1-6 under 35 U.S.C. 103(a) as being unpatentable over RU 2045675 C1 in view of RU 2021560 C1. Again, as indicated previously, the discussion of Russian patent RU 2045675 C1 is based on the abstract and the drawings. As the Examiner indicates, this Russian patent RU 2045675 C1 shows a housing with bottom inlet ports and outlet ports set vertically inside a combustion chamber with a solid fuel charge inside the housing. A tank of liquid coolant is connected to the housing through the inlet on the bottom. Again, water is being introduced to surround the solid fuel rocket motor to control the burning. It is not sprayed so as to completely enclose the burning zone of the rocket fuel as specifically required in claim 1. Thus, this patent must fail. The deficiencies of the Russian Patent RU 2021560 C1 have been discussed previously

and, as discussed previously, this patent does not teach or suggest annularly spraying water or liquid to completely envelop the combustion zone. Thus, no reasonable combination of these two Russian patents teaches or suggests the invention as defined in claim 1.

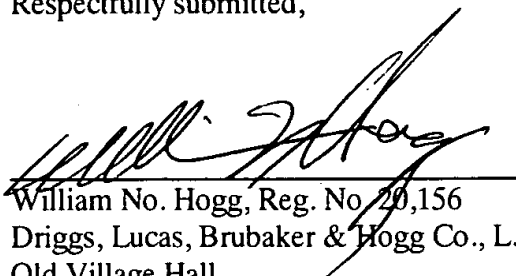
Claims 2-6 are dependent directly or indirectly upon claim 1 and, for the same reasons, are believed to be allowable. Moreover, the deficiencies of the references in teaching these claims have been pointed out previously and neither reference, as the Examiner admits, teaches removing the venturi mechanism prior to burning, nor filtering the liquid in the enclosure and recycling the filtered liquids. Thus, since no reference teaches or suggests these steps, claims 1-6 are clearly allowable.

New claims 21-23 have been added and are dependent directly or indirectly upon claim 1 and, for the same reasons, are believed to be allowable. Moreover, these claims require catching the vapor in a hood, which is not taught nor suggested by either reference and, thus, for this additional reason, these claims are believed to be allowable.

In view of the above, it is believed that each of the claims now in the application is distinguishable one from the other and over the prior art. Therefore, reconsideration and allowance of the claims is respectfully requested.

Respectfully submitted,

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